

Defrost in Space: How Innovations in Space Impacted the Cold War.

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The innovation of human space flight was a considerable triumph of the 20th century that brought as many people together as the Cold War divided. After the Cold War ended, Soviets and Americans began to reconcile their differences through space as they started to work together on numerous space projects that impacted and changed legislation and science. Their partnership proved that a common goal could end the schism between two nations just ten years after the launch of Sputnik: an event which had divided them deeply.

In the shadow of World War II, both the United States of America and the Soviet Union were afraid of nuclear attack from one another. Americans also feared that communism would spread to the western world. This fear took shape as the Cold War. The launch of Sputnik in the late fifties, is one of the most famous events of the Cold War, created panic in the United States (The Launch of Sputnik). United States citizens feared that the Soviets would soon be able to place weapons in space. The United States launched the Vanguard and Explorer I rockets on the heels of President Kennedy's "Man on the Moon" speech of 1962. These launches fully ignited the Space Race which pitted the United States against the Soviet Union (Sputnik). Although the Cold War was a time of great mistrust and conflict between the United States and the Soviet Union, it also created an opportunity for some of their greatest achievements as it pushed the bounds of innovation.

The United Nations had made many agreements in the years since its inception, but the Space Treaty was the first passed on the subject of outer space and its use. The United States and Soviet Union signed *The Treaty on Principles Governing the Activities*

of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, also known as the Space Treaty, on January of 1967 (Space Treaty).

The Space Treaty was the first space agreement that not only regulated what actions space-faring nations could take, but was also written by three of these nations. This cooperation helped ease fears from the Cold War which had just ended. One of the purposes of this treaty, to prevent the testing and placement of nuclear weapons in outer space, was presented in the fourth article of the treaty:

“State Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapon in outer space in any other manner.” (Space Treaty).

The fourth article of the treaty also stated that outer space would be shared peacefully between all of the countries who signed the treaty: “The moon and other celestial bodies shall be used by all State Parties to the Treaty exclusively for peaceful purposes.” The second article of the treaty declared that no single country could lay claim to any part of outer space: “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of occupation, or by any other means.” (Space Treaty).

By signing this piece of legislation, the United States and the Soviet Union ushered in the start of a new era of cooperation on an issue that had so deeply divided them during the Cold War: space exploration. Sixty other nations followed the lead of

these super powers and signed this treaty would become one of the most important pieces of space legislation in the world's history.

After seeing the success of their legislative cooperation, the Soviets and the Americans decided to once again work together to create space law. This treaty was called *The Treaty on Rescue and Return of Astronauts and Space Objects*. It dealt with how one nation would compensate another if they were to destroy another country's spacecraft or satellite, and how astronauts would be returned to their home country if they were stranded in space and had to be rescued by another country (Return and Rescue Treaty).

Secretary Arthur J. Rusk, the U.S. representative to the United Nations, summed up the United State's wish to continue this positive partnership during a speech in 1967: "It is our earnest desire and basic policy to continue to explore with the Soviet Union." Their exploration would soon move past the legislative stage of space diplomacy and begin to impact the world of science (Secretary Rusk).

As partners in the post Cold War era, the Americans and Soviets pushed the bounds of science farther than it had ever gone before. They collaborated on three major projects after the signing of the Space Treaty: the first of which was the Apollo-Soyuz Test Project.

The Soviets and Americans embarked on their joint space program in the early seventies with the goal of not only impacting the future of science, but also keeping their promise to change their mode of relations. They started by visiting each other's space centers several times to learn about the other country's spacecrafts as well as learning the language of the other country (Wren). These visits and skills would be integral because

the Soviets and Americans were going to attempt something that had never been done before: they were going to connect two spacecrafts while in space.

The design of the module, created jointly by the Soviets and the Americans, was built in the United States. As the two ships came together on July 15, 1975, a Soviet crew member, Valery Kusbasov, greeted the Americans by saying, “Hello everybody. Hi to you, Tom and Deke. Hello there, Vance.” Shortly after the two spacecrafts docked, Gen. Thomas Stafford, the American commander, and Col. Alexei Leonov, the Soviet commander shook hands as they exchanged gifts. Multiple pictures were taken as the two crews interacted with each other (Apollo-Soyuz Crewmembers). Over the course of two days, the Apollo and the Soyuz crews worked together on various experiments and spent leisure time together (Golightly). After two days, the Soyuz undocked from the Apollo to return to Earth while the Apollo remained in space until July 24.

This test project was a very important step towards healing the relationship between the Soviets and the Americans because it was the first time that the Soviets and the Americans had ever worked together on a joint space venture and was proof that they were serious about the Space Treaty and their new partnership (Moore). This program was extremely popular, so popular in fact, postage stamps were even made in its honor (Apollo-Soyuz Postage Stamp). Just like the image on the postage stamp of the two space ships coming together, the citizens of the United States and the Soviet Union were beginning to come together and were excited about their countries’ willingness to work together peacefully no matter how unpleasant their past dealings.

It would be nearly twenty years later before the Americans and the Soviets sent another joint space venture into orbit. This time it was the Shuttle-Mir Program: filled

with even more firsts than the Apollo-Soyuz Test Project. These firsts included: the first time Soviet cosmonauts would fly on an American shuttle, as well as the first time an American shuttle would visit the Soviet's Mir Space Station (Redmond). This program was the first move in a push to create an international space station as well as another opportunity for the Soviets and Americans to make good on their promise for space cooperation. Though the Americans and Soviets had radically different mission management styles, they proved their ability to compromise, once again, by creating a hybrid of their two management styles for the sake of the mission by allowing astronauts more time flexibility for experiments (Section 5).

Because there was so much at stake with this program, the Soviets and Americans, were leaving nothing to chance. To ensure that everything would go smoothly, another agreement was written in 1992, *The Russian Federation Agreement between the United States of America and the Russian Federation Concerning Cooperation in the Exploration and Use of Outer Space*, which stated the roles and responsibilities of each nation (Exploration Treaty).

After the success of the Shuttle-Mir program, the Soviets began to search for a way to replace their aging space station. The retirement of Mir provided the perfect opportunity for another goal of the Soviets and Americans: The International Space Station. Their work together on promoting the construction of the International Space Station was another step in proving to their countries that they were making strides in science and international cooperation. Talks took place between American presidents, vice presidents, and Russian prime ministers about the construction of the International Space Station and other future space endeavors (International Space Station).

The major assembly on the International Space Station, or ISS, took place during the late nineteen-nineties. The initial erection of the International Space Station was performed during the first phase which consisted of the assembly of ten modules connected by a large truss-like structure. The second stage of building, which is currently under construction, will be the final outfitting of the space station with labs from each nation involved with the station and various other modules. Full construction on the International Space Station is scheduled to be concluded in 2011, thirteen years after it began. Upon its completion, the International Space Station will consist of sixteen modules and numerous other components including solar panels, robotic arms and various other scientific equipment (International Space Station (ISS)).

The International Space Station is a collaborative effort between five space agencies including the National Aeronautics and Space Agency, or NASA, and the Russian Federal Space Agency. This project necessitated even more legislation which decided who would own the modules, what responsibilities each nation would have, and how much each contributing nation is paying towards the construction of the space station. Each member nation was allocated a specific amount of time they are allowed to use the space station so the station can be shared adequately between all five space agencies (International Space Station). Through this project, the Americans and Soviets were able to show the world they could work at more than just individual space programs or as a pair, but as a part of a larger group.

During the Cold War and the Space Race relations between the United States of America and the Soviet Union were filled with tension due to fear of attack and the wish to be seen as the superior nation. Because of common goals and a desire to impact and

change the worlds of science, as well as galactic legislation, they were able to put aside their disputes and work together in a way John F. Kennedy could have never expected when he gave his famous speech about putting a man on the moon, “Its conquest deserves the best of all mankind, and its opportunity for peaceful cooperation may never come again...” (John F. Kennedy Speech).

It has been over forty years since the Soviets and the Americans decided to put aside their differences and join forces to become space super powers. These two nations proved that it is possible to put unpleasant disagreements behind them and work together to create a brighter future through the innovation of human space flight.

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